

Disclosed are methods and systems for interfaces between video applications and display screens that allow applications to intelligently use display resources of their host device without tying themselves too closely to operational particulars of that host. A graphics arbiter provides display environment information to the video applications and accesses the applications' output to efficiently present that output to the display screen, possibly transforming the output or allowing another application to transform it in the process. The graphics arbiter tells applications the estimated time when the next frame will be displayed on the screen. Applications tailor their output to the estimated display time, thus improving output quality while decreasing resource waste by avoiding the production of "extra" frames. The graphics arbiter tells an application when its output is fully or partially occluded so that the application need not expend resources to draw portions of frames that are not visible.